STUDY PROJECT

IMPACT OF THE CURRENT RISE OF WORLD OIL PRICES ON THE INTERNATIONAL ECONOMY

BY

COLONEL BENHADID HOCINE
International Fellow - Algeria

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Drawing on limited means of information like the radio and TV broadcasts or the written press since the beginning of the crisis, and given the currency of the situation, I will attempt, in this paper, to explain what I would qualify as the determining factors which have to a great extent contributed to this crisis and the disintegration of the oil market. I will also try to draw parallels between this crisis and oil crises of the past and later analyze the behavior of some key players in order to put into perspective the internal and external factors as well as the role of these players in the defense of their strategic interests.

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USAWC MILITARY STUDIES PROGRAM PAPER

IMPACT OF THE CURRENT RISE OF WORLD OIL PRICES ON THE INTERNATIONAL ECONOMY

AN INDIVIDUAL STUDY PROJECT

by

Colonel Benhadid Hocine
International Fellow - Algeria

Dr. Leif Rosenberger
Project Adviser

U.S. Army War College
Carlisle Barracks, Pennsylvania 17013

ABSTRACT

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S U M M A R Y

EXECUTIVE SUMMARY

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INTRODUCTION

As a result of a decrease in oil prices, the OPEC nations have suffered losses totalling up to 263 billion dollars [1] between 1986 and 1989. That is without accounting for depreciation of the the dollar or inflation. This great loss in revenues has helped neither economic growth nor hopes for greater social justice. In the 1970's, OPEC did see the neccessity to transfer to its member states a significant fraction of the oil proceeds so as to equip them with the financial means for their development. Those within the organization in charge of fiscal matters, had that task at hand which would evolve towards guaranteeing those means on a permanent basis.

Since then, the West and the western oil companies, by way of the International Energy Agency and spot markets like that of Rotterdam, have succeeded in changing the rules of the "game" by transforming oil into a tool of speculation characterized by erratic price changes with the effect of exerting pressures unfavorable to the producing nations. In 1986, [2] Saudi Arabia came forward as the primary tool of pressures from the West, which

resulted in the plummeting of oil prices from \$ 30 to no more than \$ 15 dollars a barrel. This collapse was essentially the result of a strategic American turnaround. In fact, after having put a policy of high oil and gaz prices to the test since 1979, which should have resulted in the resumption of oil drilling in the US, the American administration [3], realizing the setbacks in the years 1985 and 1986, concluded that as far as medium to long term needs were concerned, no clear substitute for massive imports was feasible.

For most of the producing nations, the drop in oil prices had catastrophic consequences : sudden end to investments, deep cuts in national budgets, hunger riots and political destabilizations. In 1988-1989 [4], pressures towards lower prices continued their course. However, this time, it was Kuwait and the United Arab Emirates, not Saudi Arabia, who were putting the squeeze by not respecting their production quotas. The attitude of these nations, namely their constant opposition to any price increases and what seems to be orchestrated declines, has seriously damaged the interests of the other producing nations, some of whom already suffocating from their financial problems.

GENESIS - CAUSES & STAKES

The future of energy production in the Middle East, and consequently that of oil prices is at the mercy of the events

in the Gulf and the speculators.

The conflict in the Gulf has vigorously reaffirmed the strategic importance of oil of that region. The price of a barrel of oil has climbed as high as 40 dollars in November 1990, matching the level reached about 10 years ago, during the height of the Iran-Iraq war. Recently, in mid February 1991, a relative calm came to be established due to a stabilization in the market. The price of a barrel has indeed come down to the 20-23 dollar range. The year 1990 was the year when the price of crude went plummeting towards the $14 a barrel range[5], lowest level since the crash of 1986 resulting in a glut caused by overproduction among the OPEC nations. In effect, the oil market has on the whole tumbled in the past four years and it became more and more evident, even before the Gulf crisis, that the feeling of ease resulting from the very low oil prices was not going to last long without risk. On the demand side, the consumption started off again, stimulated by the crash of 1986. Among the nations of the OECD (Organization for Economic Cooperation and Development), demand fo [illegible] has seen an increase[6] of 2% a year since 1986 after after having been on the decline an average of 3.3 % per year 1979 to 1985 whereas the developping nations kept forging ahead. In sum, the world consumption of crude oil (Excluding Eastern block nations), has increased roughly by one million barrels for each year. On the supply side, the relapse in prices has resulted in the elimination of the less efficient production operations, notably in North America and the Soviet Union and put a freeze on

explorations in areas of risk. Production in the US, Canada and the North Sea has been falling by an average of 0.6% a year for the past three year afters having experienced a 2.5% annual growth up until the crash of 1986[7]. Among the developping nations, it has continued to increase but at a much slower rate (3% a year instead of 8.2%). Essentially, it is the OPEC nations and notably those in the Middle East, which enjoy the lowest cost of production, that have captured the totality of the increased demand since 1986, which amounted roughly to 5 million barrels a day. The daily production of the Cartel had thus gone from 17.3 million barrels in 1985 to 23.2 million barrels in 1989. Consequently, the West has grown more dependent on OPEC and the Middle Eastern members in particular, not just for oil but for refined products as well. The Western refineries, having been somewhat erored by the preceeding crisis, have been operating at full capacity since mid-1988. In 1989[8], the oil producing nations of the Middle East have among themselves assured more than half (53%) of world exports of crude oil and a fifth (21%) of those of refined products.

The UN embargo on the Iraqi and Kuwaiti oil deprives (in effect) the consuming nations of not only 4.2 million barrels a day but also of exports from Kuwaiti refineries capable of treating 750,000 barrels[9] a day destined mainly for the Far East.

For the moment, the supply in crude oil could be considered sufficient, though not comfortable, due to the rapid increase in production levels of Saudi Arabia, the United Arab Emirates and

Venezuela.

Speculators have orchestrated an artificial increase in oil prices ever since the beginning of the crisis. The problem is real, given the striking similarities between the price take offs during the crisis in the Gulf and that of 1979-1980 : same scenarios, same results. A temporary shortage is created, (about 10% of the world production in 1979[10] and 8% the summer of 1990), and is quickly filled by compensating sources of production.

A decade or so ago, oil transactions were based on long term contracts at fixed and predictable prices, tying thus the large oil companies to the producing nations.

The market was then largely "cartellized" and the still marginal day to day or free market was eminently of a speculative nature. Some more or less commendable "go-betweens" have managed to mesh themselves into the system and rip huge profits as a result. A load acquired at below official prices through some barely publi- rebate scheme would be resold few weeks down the road at much higher rates, bringing all prices few notches up. The deal proved so profitable and pain free that oil companies and producers, all beneficiaries of such take offs, saw no interest in combatting the so called speculation. Since then, the oil market has totally disintegrated. The official prices were abandonned in 1985, given the abundant supplies, and the closed system tying the oil companies to the producers consequently fell apart. Transactions on the spot market, having been the exception in the past, have

nowadays become the rule. The oil market has become almost like that of other raw materials on which speculation is a necessary evil, vital to the inner workings of the systems[11]. Roughly, two big systems coexist nowadays in the oil market. On the one hand, there is the physical market where actual loads of oil or oil products are exchanged, based on day to day or medium term contracts in which the prices are indexed with respect to those of the spot and not the forward markets. On the other hand and since 1985[12], we have seen the emergence of "paper" markets where promises of sales are exchanged, the materialization of which could come one, two or three months down the road. The volume of transactions of these markets has grown to becoming three to five times that of the transactions actually occuring in the physical markets. Some of these "paper" markets are organized like the futures markets of New York (NYMEX), London (IPE) or Singapore (SYMEX). Others, not organized that way, are called "forward", the most important being the "Brent Cargo" in London. By virtue of their growth, these markets became more and more complex. Markets based on option contracts have since flourished. These markets, characterized by mutual agreements, give companies, particularly those whose operations depend heavily on oil, a certain amount of protection in the long term. An added complexity comes from the fact that oil products, not just crude oil, have their own set of marketing networks. Pricing is not done in a straightforward manner either and is based, among other things, on domestic fuel, heavy fuel, unleaded fuel etc...
Additionally[13], these markets are divided in four major geographic

zones: the Far East, the Mediterranean, Europe and the United States. The prices of reference are in effect determined by the forward transactions. Will this kind of markets, which by nature permit speculation, amplify the intrinsic instability or will they instead contribute to its reduction ? These markets provide the dealers with, before all, a certain amount of protection against price increases. The dealer who buys and is waiting to sell, will sell under a term contract so as to garantee his profit margin. The consumer-reseller who sells finished products at list prices will buy under those terms for fear of seeing sudden increases in his cost of goods. Similarly, the producer, whose cost of production is more or less preditermined and relatively constant, will try to garantee a minimum profit margin by selling at least part of his production through contract sales. However, settlement markets are primarily financial markets. Thus, in almost all cases, the people involved in these deals will not receive or deliver the the physical goods corresponding to these transactions but will on paper, buy back or resell the contracts on or prior to their expiration and the losses or gains on papers will thus partially comcompensate for the losses or gains in the real markets. The potential sellers of the contracts, or those who need to guard against a downturn in prices, will not all sell if able to at all, but speculate on an upturn in prices instead. That is why the intervention of those pure speculators who buy and sell stocks, hoping for gains tied to their anticipations coming true, is necessary to the liquidity of forward markets.

IMPACT OF THE INSTABILITY OF OIL PRICES ON THE CONSUMERS AND PRODUCERS

Once the Gulf war is over and if no major risk emerged to disturb the polotico-economic situation of the region, the price of a barrel of oil will sink below the minimum acceptable level. In a matter of three months, Saudi Arabia, the United Arab Emirates and Abu Dhabi have increased their productioon by about 50%. Despite the fact that contributions from Iraq and Kuwait have come to a halt, OPEC was producing as much by the end of November 1990 as it did around the end of July of the same year. Increases in oil output from Mexico, the North Sea and even the US have more than contributed to that effect. At under $ 16 a barrel in 1991, oil will end up carrying a price tag even below that of 1974. This prospect will please, and for good reason, all the oil importing nations of Central Europe, Sub Saharan Africa and even other nations who have no leverage at their disposal. That should also receive a warm welcome in the US where the American administration seems to have no illusion on the possibility of restoring a minimum of oil autonomy.

The first oil crisis in 1973 has accelerated the growth and diversification of the reserves[14] by speeding up the transfer of exploration investments of the Middle East towards the United States, the North Sea and so called non-OPEC nations. Despite the

remarkable technical advances which have brought costs down and helped expand the reserves, production in the North Sea and the US has entered a phase of diminishing returns.

Looking to reapply their investments into more favorable regions, the oil companies have again turned to the countries of the South. These redeployments have in general been well perceived. After many years of exploration reduced to drippings, many nations of OPEC have revised their oil and fiscal practices in preparation for the revival of exploration on a joint basis with the multinational oil companies.

The current conflict in the Gulf could at the same time put a damper on already achieved headways and dissuade from considering making others. It could specially add a dimension of vulnerability to the supply side, a growing size of which will depend on the political climate and the consequences of the war. The world demand for oil will be difficult to satisfy for the simple reason that it is more an increasing demand for fuel. It has been the case in the US for a long time and there is every indication that it is the case for Japan and Western Europe as well: 60% of the oil consumption[15] (aside from that serving as raw material for the chemical industry) goes to air and land transportation. To this day, demand in this sector, has grown beyond any control. Since 1985[16] it has increased at a minimum rate of 2.5% in the US, 4% in France and 10% or more in South Korea, Thailland, Singapore

and Honk Kong. The Soviet Union, despite its enormous oil reserves and geological potential, has experienced declining productivity in its oil industry for the past ten years, mainly due to lack of quality equipment, infrastructure and organization. Oil exports[17], which exceeded 200 million metric tons (one third of total output) in 1988, half of which to the West and the rest to once sattelite nations, had already declined by 10% in 1989 and by about one third in 1990. It was to litterally collapse this year. What remains to be seen is whether these drastic reductions will come at the expense of former clients who have been the principal victims of difficulties experienced by the Soviets in the past two years or deliveries originally destined to the Western nations. At any rate, this decline will have its effect on the world market equilibrium since the sattelite nations of the USSR will have to look elsewhere for new suppliers.

India[18] will get the full impact of the consequences of the events in the Gulf primarily because 40% of its oil imports come from Iraq and Kuwait (via an exchange triangle by which India gets its oil from the Soviet Union via Irak) and also because of the departure of Indian nationals from the region and the effects this will have on their country's balance of payment.

The oil produced by nations of the African continent constitutes about 10% of the world output[19]. Four nations within that continent: Nigeria, Libya, Algeria and Egypt account for 80% of that production, the rest being contributed by Angola, Congo,

Cameroun and Gabon. The big winners of the increase in oil prices prices will of course be the big exporters and specially those whose income from those exports represents a major part of the gross national product. As to the small producers, who have attained the limit of their production capacity, profits will be limimted accordingly. For the other countries of Africa, all importers of oil, things are somewhat more disastrous since paying for those imports will undoubtedly cut deeply into their already meager means. They are vulnerable more so because of their inability to develop or implement energy savings techniques, already existant in the industrialized world for the past 15 years.

ALTERNATE SOURCES OF ENERGY

The pursuit of alternate sources of and ways of conserving energy will meet with new obstacles that a barrel of oil at a price below a particular threshold will make practically insurmountable. Nuclear energy programs have been interrupted in many countries. Coal faces increasing obstacles related to its excessive carbon dioxide emissions and the air pollution it provokes. Natural gas fairs better. It is likely that it will gain ground by penetrating the market of power generation. This increase in demand could however be tapered by limits in supply (mainly due to transport overheads) if the prospects of oil under 20 dollars a barrel make natural gas not a feasible alternative.

In this last decade of the century, marked by an increasing concern over the environment, a generalized defiance of nuclear energy and and increasingly unstable oil theater (context), natural gas seems like a miraculous source of energy which is clean, flexible, economic and abundant[20]. Natural gas will henceforth be in vogue. Ecologically, it carries a definite advantage over nuclear energy and coal. Furthermore, the advances made in the techniques of production and utilization, make it competitive even with respect to nuclear energy. Though not entirely pollution free, natural gas is much cleaner than oil and by far cleaner than coal. Furthermore, unlike nuclear energy, natural gas does not necessitate a gigantic initial investment and is economic even for small installlations or brief periods of utilization. Finally, natural gas possesses a strategic advantage over oil and that is its abundance.

CONCLUSION

At the heart of the current conflict in the Gulf, one can see that a new stage in the battle for oil annuities is unfolding. Oil was one of the primary causes of the conflict; it could also be a key element in its resolution. It will in addition remain, beyond this conflict, a major stake in international economic relations; the physionomy and economy of the world will in the decades to come depend to a great extent on the manner in which those stakes are played out. The consuming nations of the North

must understand that if a durable solution to their energy dependance is desired, it is important that the price of oil remain relatively high. This would be a key in controlling consumer behavior with regards to energy spending and promoting development[21] of alternate sources of energy. Taxing the consumer may seem like the ideal solution. While this measure will have some positive effects on the equilibrium of budgetary matters by slowing down demand, it will not by itself garantee an adequate supply or development of alternate sources. Only somewhat high prices on the international level could act simultaneously on both the supply and demand. in order to put an end to the cyclical evolution of the oil market, dialogue between producers and consumers will prove to be the only solution. The main objective would have to be the stabilization of prices at reasonably high level if garanteeing long term supplies from the Gulf is to be desired. OPEC, formerly the spearhead of raw material exporting nations and used to using oil as a political tool has changed a great deal. Despite being somewhat torn within a crisis, OPEC has managed to act in concert and arrange for increased production, closing thus three quarters of the resulting shortage. The International Energy Agency[22], created on an american initiative as an antidote to OPEC, following the first oil shocker, has also changed a great deal. The current conflict could very well result in many scenarios characterized by a host of international economic relations based on negotiated and lasting revenue sharing arrangements. Also, it is important to see to it that the situation of the consuming nations of the South is not left to deteri-

orate. In the next 20 years[23], the world population will increase by about 2 billion, mainly from nations of the South. If serious measures are not taken, the future of humanity will be threatened given the increasing pressures resulting from the widening disparity between the billions of humans in the South and the minority living in the developped regions. Also, measures should be taken to increase the means of those poor producing nations to on the one hand help them get over the crash of 1986 and on the other carry out the investments necessary to meet future growing demands.

RECOMMENDATIONS

It might prove useful and necessary, given the prevailing situation in the oil market, namely the uncertainties surrounding it, to institute a constructive dialogue and a close, sincere and objective cooperation among the principal parties able to influence price levels, so as to avoid being subjected to the alternating and successive crashes.

The stability of prices and the garantee of supplies could be formulated and confined to a simple regulation acting on the supply side, namely on the production and stock levels. Under such a scheme, the IEA, the major oil companies and the producers in particular will all be working together towards a common solution to the instability surrounding the oil market. The nations of OPEC

will use as leverage their ability to modulate production under normal times whereas the IEA and the oil companies will use the leverages inherent in their respective roles as managers of strategic and commercial stockpiling.

The garantee of continuous availability of supplies will have to imply somewhat lucrative prices in order to assure the economic development and the social stability of the producing nations on the one hand and on the other to enable these nations to carry out timely investments necessary for meeting future demands. Continuing to ignore this duality and resorting to other means for assuring those supplies, will more than likely lead to further breakdowns.

F O O T N O T E S

[1, 3, 4, 23] French Newspaper : LE MONDE DIPLOMATIQUE
Paul Sindic. *Le Petrole, Arme de Domination*
Dec. 1990, p. 26

[2] Oil Prices in the 1990's. Edited by David Hawdon.
Introduction by David Hawdon. *Analysis of Oil Prices* - p. XIII

[5, 6] Oil Prices in the 1990's. Edited by David Hawdon.
Historical Evolution of Energy Market - page 2
and *Rise and Decline of Oil Demand* by George Kowalski

[7, 8] French Newspaper : LE MONDE
Veronique Maurus. *Oil : Choc.* 18 Sept 1990, p.25

[9] Algerian Newspaper : EL MOUDJAHED
La Hausse du Prix de Petrole - Source AFP - 4 Oct. 1990, p. 5

[10, 12, 13] French Newspaper : LE MONDE
Veronique Maurus. *Une Certaine Normalization* 23 Oct. 1990, p.25

[11] Oil Prices in the 1990's. Edited by David Hawdon.
David Hawdon : *Oil as Commodity* - page XIV

French Newspaper : LE MONDE
Pierre Noel Giraud. *La Speculation Souhaitable.* 23 Oct. 1990, p. 25

[14] Oil Prices in the 1990's. Edited by David Hawdon.
George Kowalski : *Historical Evolution of Energy Market* - page 2

[15, 16] French Newspaper : LE MONDE
Jean Marie Martin : *Une Crise Peut en Cacher une Autre*
11 Dec. 1990, p. 28

[17] French Newspaper : LE MONDE
Veronique Maurus. *Effrondements des Exportations de Petrole.*
28 Nov. 1990, p. 25

[18] French Newspaper : LE MONDE
Emile Quinet. *La Facture Petroliere*. - 4 Dec. 1990, p. 28

[19] French Magazine : JEUNE AFRIQUE
Henri Asher. *L'Insupportable Facture Africaine*. 26 Sept. / 2 Oct. 1990, p. 80

[20] French Newspaper : LE MONDE
Veronique Maurus. *Le Reveil du Gas*. 18 Dec. 1990, p.25

[21] Oil Prices in the 1990's. Edited by David Hawdon.
David Hawdon 1989 - Andre Gordon : pp. 57 - 58
David Hawdon : p. 103

[22] Algerian Newspaper : EL MOUDJAHED
APS - *Cooperation OPEP - AEI*. 2 Oct. 1990, p. 5

BIBLIOGRAPHY

PUBLIC DOCUMENTS

David Hawdon. *Oil Prices in the 1990's.*
David Hawdon - 1990

NEWSPAPER ARTICLES

French Newspaper : LE MONDE

Veronique Maurus. *Oil : Choc.* 18 Sept 1990, p.25

Laurent Zecchini. *Les Consequences de la Crise du Golfe.*
20 Sept. 1990, p.36

Patrick Criqui. *Crise du Golfe sur Fond de Petrole.*
25 Sept. 1990, p.27

Veronique Maurus. *Petrole : Une Certaine Normalization.*
23 Oct. 1990, p. 25

Pierre Noel Giraud. *La Speculation Souhaitable.*
23 Oct. 1990, p. 25

Veronique Maurus. *Les Consequences de la Crise du Golfe.*
13 Nov. 1990, p. 21

Veronique Maurus. *Effrondements des Exportations de Petrole.*
28 Nov. 1990, p. 25

Emile Quinet. *La Facture Petroliere.*
4 Dec. 1990, p. 28

Jean-Marie Martin. *Une Crise Peut en Cacher une Autre.*
11 Dec. 1990, p. 28

Veronique Maurus. *Le Reveil du Gas*. 18 Dec. 1990, p.25

French Newspaper : LE MONDE DIPLOMATIQUE

Paul Sindic. *Le Petrole, Arme de Domination.*
Dec. 1990, p. 26

Algerian Newspaper : EL MOUDJAHED

APS - *Cooperation OPEP - AEI.* 2 Oct. 1990, p. 5

R.E - *Petrole : Predictions et Previsions.* 6 Oct. 1990, p. 5

APS - *Petrole : Stabilite du Marche*. 18 Oct. 1990, p. 5

AFP - *La Hausse des Prix du Petrole* 4 Oct. 1990, p. 5

Ali Aissaoui - *Quel Prix d'Equilibre*. 25 Dec. 1990, p. 7

MAGAZINES

French Magazine : JEUNE AFRIQUE

Henri Asher. *L'Insupportable Facture Africaine.*
26 Sept. 2 Oct. 1990, p. 80